

Discussion Paper on 'Valuing Nature'

1. Introduction

By signing the Kunming-Montreal Biodiversity Framework, Australia joined many other countries to make a commitment is to ensure that at least 30% of degraded terrestrial, inland water, coastal and marine ecosystems in Australia are under restoration by 2030.

The twin global challenges of biodiversity loss and climate change impacts that humanity now faces have largely resulted from the failure of economic systems to fully value nature. There is an urgent need to recognise that, ultimately, the global economic system can only continue to function if the natural systems on which it depends are healthy. A fundamental shift is required in our attitude to the value of nature, combined with changes to the political and economic decision-making processes.

This Discussion Paper reviews alternative approaches to valuing nature and makes the point that the value of nature is not limited to economic value but includes cultural and spiritual values, as well as benefits to human health and well-being. While these values may not be measured in monetary terms, they must be seriously considered in planning and allocating the required funding to protect, restore and sustainably manage nature.

2. Context

Natural environments and managed landscapes within cities and towns form a significant component of the global economy but regrettably they sit outside the market system. The current market-based economic system is largely based on the presumption that natural assets can and should be used to support the production of goods and services for economic growth. Natural environments, and the biodiversity they contain, have been treated as resources that can be consumed at little or no cost. Market-based economies currently only recognise values that can be

expressed in monetary terms, and other values, such as community health, cultural significance, ecological diversity, and ecosystem services associated with natural environments, are not accounted for. Consequently, there is little concern to protect and sustainably manage them, and natural environments continue to be degraded and biodiversity lost, while pollution of the atmosphere, rivers and oceans also continues.

Direct beneficiaries of the consumption of natural assets can be fairly easily identified. They include mining companies, forest products companies, industrial agriculture, energy companies, property developers and individual landowners. However, the people who are impacted by the consequences of consuming natural assets, air and water pollution, degraded rivers and marine environments, loss of biodiversity, extinction of species, and climate change, are widely dispersed and more difficult to identify. This situation contributes to hamper changes the current system because of conflicting interests and disparities in power and influence.

The widely held belief in market systems as a mechanism to address climate change and biodiversity loss, even when the evidence is to the contrary, continues to result in lost time and waste of resources to effectively address the threats. Promotion of neoliberal economics, which began to accelerate in the 1980's, has not only created an almost blind belief in markets but has effectively degraded the role of government in addressing the environmental, social and economic challenges that we now face.

To halt and repair the degradation and damage to natural environments will require a large-scale investment of capital together with human resources and expertise over many decades. Given the failure of the current market-based economic system to prevent the degradation, there is an urgent need to

Discussion Paper on 'Valuing Nature'

significantly change the way nature is valued by society, in both economic and non-monetary terms.

The economic valuation of nature can be approached in several ways. It includes market-based and non market-based approaches. Another option is to protect natural environments on private land by the landowner voluntarily establishing a legally binding permanent Conservation Covenant. These options are addressed in detail in the following sections.

3. Market-based Approach

This option for valuing nature is based on the concept that legal instruments, such as credits, certificates or bonds, can be created that monetise the value of natural values. The instruments can then be traded in a market to generate capital that funds activities or projects to protect and restore natural environments. The price of the traded instrument is generally determined in the voluntary market by buyers and sellers without regulatory control. However, in the case of bonds, their price is set by the government or institution that issues the bond.

One example of this market-based approach is the carbon market, in which carbon credits are traded to allow carbon to continue to be emitted by an activity or enterprise. At the same time, the impacts are intended to be offset by carrying out activities, such as planting trees or carbon farming, to mitigate the emissions impacts. The sale of carbon credits generates capital to fund activities intended to offset the impact of carbon emissions on the climate, natural environments, and public health. A single carbon credit represents one tonne of carbon captured through mitigation activities that offset the one tonne of carbon emitted.

The carbon credits market can be viewed as a financial mechanism to rectify 'market

failure'. This failure results from the true cost of environmental impacts of carbon emissions from burning fossil fuels being treated as an 'externality' and therefore not being accounted for in the market system.

In a similar manner, biodiversity offsets are certificates sold in a market to generate capital that is intended to fund the implementation of projects to protect or restore the biodiversity values of one area as an offset to the destruction of biodiversity values at another location. At best the outcome is no net loss of biodiversity, but in most situations the time difference between destruction of vegetation in one location and establishment and maturing of the 'offset' vegetation in another location results in a net loss of biodiversity.

The Nature Repair Market Bill 2023, which is currently stalled in Federal Parliament, proposes the establishment of a voluntary market for the trading of biodiversity certificates that would be linked to registered biodiversity restoration projects. Registration of a project would commit the proponent to implement ecosystem restoration and protection actions over the decades that are required to achieve a defined and agreed ecosystem restoration outcomes. The price of biodiversity certificates would be determined in the market through the voluntary transactions of buyers and sellers. Verification of the agreed ecosystem restoration outcomes associated with each biodiversity certificate is a key issue that will determine the integrity and viability of the Market if it is established.

Investors in biodiversity certificates are expected to include companies and organisations seeking to meet their commitments to green ethical investments as well as the investment goals of philanthropic organisations and individuals.

The Landscape Foundation of Australia (LFA) acknowledges the potential for the proposed Nature Repair Market to generate funding to

Discussion Paper on 'Valuing Nature'

implement ecosystem restoration. However, the LFA has expressed concerns about the design of the current legislation in a submission to the Department of Climate Change, Energy, the Environment and Water during the public consultation process. Significant changes to the legislation, particularly in relation to offsets, are required to ensure the integrity and viability of the proposed Market.

Another form of market-based approach is the use of 'Green Sovereign Bonds', which are guaranteed by the government and therefore involve low risk to the purchaser. An annual payment is received by the bond holder for the period of the bond, as well as a final payment at the end of the 25- or 50-years bond period. Capital generated by sale of the bonds is used by governments to fund projects that aim to protect, restore, and sustainably manage ecosystems.

A National Restoration Plan is required to provide a framework in which restoration targets can be set and priorities identified for implementation of the Plan. A government authority would be responsible for approving, coordinating and monitoring restoration projects to ensure they contribute to meeting the targets set in the National Restoration Plan.

LFA advocates for the establishment of a Green Sovereign Bonds program by the Federal Government to fund large-scale ecosystem restoration across Australia and a National Restoration Plan. Establishment of the Plan is a matter of urgency to ensure that Australia meets the commitments made by signing the Kunming-Montreal Biodiversity Framework.

The Australian government has announced that 'Green Sovereign Bonds' will start to be issued in 2024, but at this stage they are intended to fund net zero target projects. LFA sees this commitment as an excellent opportunity to establish a category of 'Green

Sovereign Bond' that is designed to fund ecosystem restoration projects across Australia, within the framework of a National Restoration Plan.

4. Asset Accounting Approach

Natural assets in urban landscapes include the green infrastructure comprising areas of remnant natural vegetation, public open space, parks, reserves, national parks, drainage corridors, street trees as well as constructed urban landscapes and wetlands. Asset managers currently do not include natural assets in their portfolios, despite the values and benefits being well understood. There are several challenges to increasing the recognition, use and management of natural assets within urban environments. Challenges include the need for recognition of natural assets as traditional assets and the difficulty assigning a monetary value to natural assets and the environmental services they provide. The result is generally inadequate allocation of funding for their protection, restoration, management, maintenance and replacement.

LFA supports the development and application of best practice guidelines and training to increase the understanding of natural assets and their values. LFA encourages the implementation of natural asset management, which potentially has a strong alignment with existing well-developed approaches to infrastructure asset management, that include:

- the development of natural asset inventories
- assessment of their condition
- management of risks and opportunities
- levels of service
- consideration of climate and other demands
- lifecycle scenarios and financial options for operations and maintenance
- incorporation in long-term financial planning.

Discussion Paper on 'Valuing Nature'

Natural assets can provide a range of environmental services and benefits to the health and function of communities. Increasing evidence shows that identifying, measuring, and managing natural assets and creating green infrastructure as part of an overall asset management strategy can save capital, reduce operating costs, and lower risk compared to traditional engineered alternatives.

In addition, natural assets can be long-lived, and in many situations, they are perpetually self-regenerating. They are often more resilient and adaptable to extreme weather events associated with climate change, compared with traditional infrastructure (MNIA, 2023). Notably, the value of natural assets generally increases over time as trees and other vegetation grow, and biodiversity increases together with ecosystem services, cultural values, and public health benefits.

Under an accounting approach, natural assets are identified and recorded on the asset register and balance sheet of the public authority responsible for their management. They are managed in a similar way as physical infrastructure assets, with the cost of protecting, restoring, and maintaining the natural assets treated as an investment rather than an expense. The result is the allocation of recurring funding at the level required to ensure the natural assets are appropriately managed, renewed or replaced as required.

The Municipal Natural Assets Initiative Guidebook (Section 4) published in Canada indicates that natural asset valuation is focused on incorporating this class of assets into the asset management system of government authorities, so their condition and value can be tracked over time and funds budgeted for ongoing management and maintenance. However, it should be noted that because this asset management approach does not involve a market, the asset value is not determined by transactions

between buyers and sellers. Instead, the asset value is determined by applying historical data on the cost of management and maintenance that is projected over the life of the asset, as well as end-of-life replacement cost, if relevant.

Determining how the value of a natural asset is recognised in an asset accounting approach will need to be further refined as more best practice examples become available. The accounting procedure will need to recognise non-monetary values associated with natural assets when making decisions about priorities and the allocation of funding and resources.

Identifying these non-monetary values, which include their contributions to human health and well-being, biodiversity and cultural values, must involve community engagement to ensure equity and ongoing community support. The recently published CSIRO Natural Capital Handbook provides guidance on how to approach natural capital accounting as well as natural capital impact, dependency, and risk/opportunity reporting.

5. Landowner Voluntary Approach

Protection and restoration of natural environments on privately owned land can be achieved by the landowner voluntarily establishing a legally binding permanent Conservation Covenant that is recorded on the land title. The Conservation Covenant ensures that natural asset values are protected in perpetuity by precluding activities such as land clearing, planting of non-native plants and grazing. The landowner commits to manage the land in a way that maintains the health and function of the natural environment. Funding for management of land covered by a Conservation Covenant may be provided by philanthropic organisations, corporations,

Discussion Paper on 'Valuing Nature'

fund managers and individuals wishing to support the protection of nature.

Government policy can encourage and support this approach to valuing nature. For example, in Victoria from January 2024, land protected through a Conservation Covenant will be exempt from state land tax. Governments can also provide grant funding and expert technical advice to landowners to offset the cost of managing Conservation Covenant land.

6. Non-economic values of Nature

While there has been some progress in the development of methods to assign economic value to the benefits provided by nature, it is important to acknowledge that humans assign other values to nature that cannot be expressed in monetary terms. These include cultural and spiritual values as well as the benefits to human health and well-being. While these values cannot be monetised, it is essential that they be considered in government policy, planning and decisions on the allocation of funding and other resources.

There is increasing research evidence that confirms the value of nature in relation to the emotional and physical health of people. Physiological response of humans to engagement with natural environments has been measured. Some medical doctors prescribe to patients that they spend defined periods of time in natural environments to reduce stress and address other health issues.

'Forest-Bathing' is widely practiced in Japan and is starting to have a presence in Australia. Dr. Qing Li in his book *Shinrin-Yoku; the art and science of forest-bathing*, describes how regular interaction with forest environments can help people improve health and happiness. The benefits that have been measured include lower blood pressure, reduced levels of the stress hormones cortisol

and adrenaline, lower blood sugar levels, increased anti-cancer protein production and improved concentration and memory.

Interaction with nature is a vital element of child development that has been confirmed by research over recent decades. Louise Chawla in the journal *People and Nature* in 2020, provided a detailed review of the research, including both quantitative and qualitative studies, on children's connection to nature. The research confirms that direct and regular experience of nature during childhood contributes to the care for nature across the lifespan of individuals. Emotional connections with nature have the potential to leverage deep societal change towards the respect and care for nature. Creating opportunities for children to connect with nature is essential if future generations are to ensure the planet is habitable for humans.

Given the failure of the current market-based economic system to take account of cultural and spiritual values of nature, or its health benefits, there is an urgent need to acknowledge these values in our social and political decision-making processes. As these values and benefits cannot be expressed in monetary terms, society needs to develop ways of effectively addressing them in the social context through community engagement as part of the political and economic planning decision processes.

LFA advocates that the social and political systems through which decisions are made, and how power is exercised in relation to the allocation of resources and investment of funds, need to be changed so they effectively take account of the non-economic values of nature. This requires a focus on community engagement and representation at a local level. It can involve local advisory groups comprised of community representatives that provide advice on decisions that affect the community in which they live.

Discussion Paper on 'Valuing Nature'

LFA supports research and development of effective models that incorporate non-economic values in decision making. This includes community engagement that recognises and takes account of non-economic values in the decision-making process.

7. Conclusion

This discussion paper underscores the critical need for innovative approaches to address biodiversity loss and restoration of natural environments. It highlights the shortcomings of the current economic system in failing to value nature and proposes potential solutions.

While the market-based approach aims to create financial mechanisms to fund restoration projects through trading of certificates, concerns about its integrity and effectiveness have been raised, particularly in relation to the use of biodiversity offsets. The asset accounting approach provides a way to acknowledge their long-term value and benefits of natural assets and incorporating them into infrastructure asset management.

Both approaches emphasise the importance of recognising nature's intrinsic value beyond monetary terms. A combination of these approaches, informed by evolving best practices, is required to provide the basis for effective restoration that ensures healthy and sustainable natural environments.

Voluntary Conservation Covenants adopted by landowners can also make a significant contribution to meeting biodiversity targets, but additional incentives such as grant funding and waiving of land tax are required to increase the scale of this initiative.

Authors: Noel Corkery and Chris Champion
Landscape Foundation of Australia Ltd
October 2023

info@landscapefoundation.org.au